

第二言語サイエンティフィックライティング Scientific Writing in a Second Language

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In recent years, the ethical aspects of scientific research and writing have come under increased scrutiny in Japan. Confounding this issue are the burdens scientists experience as second language (L2) writers based outside of Anglophone “center” countries. Hanauer and Englander’s nine-chapter volume enlightens the reader not only about the complexity of literacy problems that L2 scientists might face but also about possible solutions to the problems.

Chapter 1 provides an introductory overview of the global context of literacy disadvantages facing L2 scientists. The authors’ review confirms the grim reality that L2 scientists’ valuable knowledge often goes unrecognized because their work is not always published in journals indexed in international scientific databases. This chapter also reports the increased pressure placed upon such scientists mainly by national and institutional evaluation systems that promote international publishing.

Chapter 2 examines the genre of English-medium research articles (RAs), focusing mainly on its social functions and structural features. The authors remind us that the RA is purposefully designed to

disseminate knowledge to a community of “expert-insiders” (p. 29) in a particular field for evaluation. In other words, a complex array of stylistic demands is called for primarily in order to cater to the expert audience’s needs for “easy navigation and quick referencing of complex information” (p. 31). The authors make clear that the success of publishing an RA fulfilling all such demands depends not simply on the writer’s own abilities to interact with the local research community and with expert reviewers of the target journal. Rather, they emphasize that it takes a “network of resources” (p. 21) that provide linguistic and academic levels of supports to facilitate the publication.

Chapter 3 illuminates documented experiences of L2 scientists in the periphery, writing to publish RAs in their contexts. The authors’ review suggests that a range of factors seem to determine the degree to which L2 scientists will achieve successful international publication. These factors include access to material resources (e.g., key journals and databases), advanced English literacy education, and connections with experts in the Anglophone “center.” Their review further indicates that L2

scientists seem to experience extra writing-related challenges, requiring extensive strategic solutions.

Chapter 4 offers an overview of the authors' large-scale case study on the challenges associated with scientific writing among Spanish-speaking scientists in Mexico. To capture both synchronic and diachronic aspects of the participants' L2 scientific writing experiences, the case study uses a sequential, mixed-method design. In order to understand their current issues with writing, a quantitative survey was conducted among 148 respondents across two sites: a teaching university and a research institute. This quantitative component was followed up with a qualitative component, through interviews and document analyses with 16 of the respondents from both sites, to explore the diachronic dimension of their experiences with writing and their learning needs.

Chapter 5 reports on the findings from the quantitative component of the research, showing that the scientists from both institutions perceived that L2 factors hindered their international publishing activities. Specifically, the scientists experienced a profound increase in the level of difficulty, anxiety, and dissatisfaction with scientific writing in English as compared with that in Spanish. Further, more than half of the scientists deemed L2 writing as a barrier to international publication, and reported difficulties attributed to linguistic factors (e.g., language, genre form, and writing processes). On the other hand, the degree of difficulties varied according to their institutional contexts and career stages. Junior scientists, especially at the teaching university, perceived significantly higher levels of difficulty and anxiety.

Chapter 6 presents the findings from the qualitative component of the research, explicating the selected L2 scientists' individual trajectories of experiences with scientific writing. According to the main findings, many of the participants across the board had only limited training in the English

language and academic writing over the course of their academic careers. It also was clear that they needed continued support even after becoming professional scientists.

Chapter 7 further provides cross-group analysis of the above data. One of the main findings concerns the considerable differences in literacy history across groups. Junior scientists at the teaching university were found to have greater needs for foundations in scientific writing, given their late onset of learning English and lack of sufficient opportunities to get individualized feedback as compared to the other groups. Another important finding was that all the groups shared learning needs for progressive literacy supports for their literacy development, while at the same time requiring attention to their differing problem areas.

Chapter 8 offers practical implications of the study, detailing the educational interventions that can facilitate the literacy development of L2 scientists. The authors propose a range of long-term literacy education platforms including explicit group-based literacy instruction, expert and peer mentoring, and editorial services, depending on the academic and career stages of the scientists. The authors also emphasize that such platforms should be flexible, diverse, and individualized, covering not only the linguistic and textual aspects of scientific writing, but also its psychological and sociopolitical domains.

Chapter 9 delineates possible policy considerations that could help L2 scientists. The authors stress that, in order to respond to their multiple literacy needs, different stakeholders in science, including universities, policy makers, research institutions, and academic associations, should work together.

Given the specialized content, the primary readership of the volume would be L2 literacy researchers and L2 educators in higher education settings. However, it would also be of interest to

program administrators, policy makers, and L2 scientists themselves. Despite its limitations in generalizability, the comprehensive literature review, rich data, and detailed educational suggestions are compelling enough to open the reader's eyes to comparable issues surrounding Japanese scientists in need of help. More broadly, the book can serve as a valuable catalyst for discussion on positive change in higher education and scholarship in Japan.